

THE DEVELOPMENT OF AN INTRODUCTION TO ELEMENTARY EDUCATION TEXTBOOK

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**THE DEVELOPMENT OF AN INTRODUCTION TO ELEMENTARY EDUCATION
TEXTBOOK**

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ABSTRACT

This development research aimed to produce an Introduction to Elementary Education textbook for the purpose of teaching students majoring in elementary teacher education. Subjects participating in the study consisted of lecturers and freshman students of elementary teacher education of Sriwijaya University. The procedures development research consisted of planning, design, and development. Methods used to obtain the required data consisted of interview, observation, student enthusiasm questionnaires, and test of learning outcomes. Qualitative data were analyzed orderly according to the stages of development and enthusiasm and learning outcome data were analyzed by counting mean score and its standard deviation. Results of development stages showed that the textbook met the validity criteria based on reviewer evaluation and fulfilled practicality criteria based on pilot test. Gaining total mean score $M=84,98$ and $SD=4,33$ for learning outcomes and total mean score $M=4,11$ and $SD=0,33$ for enthusiasm aspects, the research indicated that the developed textbook fulfilled the required criteria.

Keywords: textbook, elementary education, elementary school, elementary teacher education

INTRODUCTION

An Introduction to Education course equips students with basic knowledge of education. Freshmen who are majoring in Elementary Teacher Education (ETE) are introduced to this course so they have a broad insight into the world of education. Since its establishment in 2006, the ETE of Sriwijaya University has revised its curriculum four times. In 2017 the ETE re-revised the curriculum by embracing the Indonesian National Competency Framework (KKNI). The result of this strategic change is the enforcement of the instructional materials from the general to the specific, contained through the previous course named Introduction to Education to Introduction to Elementary Education.

If related curriculums in various universities examined, the introduction to education course has a more or less similar description. For instances, the contents of introduction to education courses at the College of DuPage (2017), Massachusetts Institute of Technology (MIT) (2017), and Auburn University (2017-2018) concern with philosophical, legal, social and educational ethical foundations, teachers' professions, school organizational structures and educational authorities, school objectives and roles, current school issues, procedures, methods, and observational ethics in schools, rules on credentials becoming teachers, rules on academic performance in the state, and strategies to accommodate the needs diverse learners.

Changes on the content of the course have implication on instructional design. In sum, this course requires re-formulation of the instructional design in order to facilitate the effective learning process. However, it should be noted that whatever a

strategy chosen in an instructional design, it requires teaching materials that should be provided to students for achieving the learning objectives (Dick, Carey, & Carey, 2009).

One of the best practices most widely used in teaching is textbook (Gak, 2014) although few students complain about the affordability of the book prices (Senack, 2014). Introduction to Elementary Education course requires textbooks that are written, designed, edited and reviewed systematically to meet three criteria, i.e practical, suitable for the characteristics of students, and to help understand the learning objectives (Reiser & Dick (1996). Referring to McKenney (Jonassen, 2004) a text book has to require validity, practicality, and potential impact or effective. In a learning perspective that relies on research studies, particularly at the higher education level (Samaramickrema, Samaramickrema & Macaulay, 2016; Brown & Jones, 2015), Wright (2011) believe that a method of student-oriented material delivering will enables instructor to have a chance to control students.

Murray and Perez (2011) specifically investigated the use of textbooks in the sense of the loading format: electronic textbooks versus traditional textbooks. The results show that textbooks still play an important role in learning in college and there is no significant difference in learning outcomes between students using electronic textbooks and traditional textbooks.

Nicholls (2007) specifically outlines the importance of research on textbooks and advises researchers to adhere to a strong philosophical foundation for doing so. In the perspective of educational technology there are a number of

educational product development procedures that can be chosen by developers in writing instructional materials in various formats, including textbooks, such as Flagg (1994), Alessi and Trollip (2001), and Dick, Carey, and Carey (2009).

Considering the importance of textbook support for curriculum implementation as described above, a relevant textbook is required in instruction. Support for the implementation of the ETE's Curriculum in the form Introduction to Elementary Education textbook is important so that students will have a solid, solid foundation of the profession they have chosen. Without comprehending such foundation, prospective students have the potential to experience failure in understanding the basics of elementary education and of course will affect the interest and motivation to learn, and in turn will affect the optimal learning achievement. This development study aims to produce textbooks Introduction to Elementary Education that meets three main criteria, namely **valid, practical, and effective in terms of** learning behavior **and** student learning outcomes.

RESEARCH METHOD

Research development was chosen as an avenue to achieve research objectives. Stages of product development applied in the study referred to the Alessi and Trollip model (2001), consisting of plan, design, and development. Research subjects consisted of 2 lecturers who taught Introduction to Elementary Education course, students of ETE Sriwijaya University who enrolled in academic year of 2016 and academic year 2017. The 20 students of academic year 2016 were involved in order to collecting data pertaining the past practice of instruction of Introduction to Education course. In addition, the 46 students of academic year 2017 participate in development stage.

Instruments that are used to collect data were (a) lecturer interview and student interview guideline, (b) interview guidelines for book reviewers' validity, (c) interview guidelines practicality of textbooks for students, (d) a 12 items Likert Scale of student enthusiasm questionnaire in using textbooks, and (e) 14 items test of learning outcomes. Data analysis were done by using qualitative and quantitative procedures. In qualitative analysis, data were identified according the thematic framework, mapped, and interpreted. Data on student enthusiasm and learning outcomes were analyzed by calculating the mean score and standard deviation.

RESULTS AND DISCUSSION

Results of Planning Stage

1. Curriculum analysis of Introduction to Education course

From analyzing the description of Introduction to Education course, it could be observed that the characteristics of the course, the learning outcomes of the course, the course delivery system, and the assessment of student learning outcomes had not been clearly described to be necessary in accordance with the characteristics of the introductory course. There were eight outcomes of Introduction to Elementary Education. In closer look, the learning outcomes of the course seemed to focus on the discussion of the nature of education science, particularly the 1st to 5th learning outcomes. While the 6th to 8th learning outcomes provided little knowledge to students about elementary education practice. Luckily, the learning strategy and learning assessment used in instruction were in harmonious with the higher education standards.

2. Analysis of student characteristics

The number of prospective users of textbooks were 81 students, consisted of 11 men and 70 women. They are on average 17 years and 7 months. Since their ages were relatively homogeneous, it was assumed that there was no significant difference in emotional maturity aspect among students and not many obstacles related to the dominance of student or student involvement in learning. **The average score of the National Exams of students** was 57,67. It was concluded that the students cognitive abilities were relatively homogeneous viewed from the mean score of National Exams and its standard deviation. It was assumed that there was no constraint in the cognitive ability or prior knowledge of the students. Students were selected through SNMPTN (National Entrance Selection of State Universities), SBMPTN (Joint Entrance Selection of State Universities), and USM (Local Entrance Selection of State University). There was no significant difference in students' ability selected from the three systems so classical instruction could accommodate all of student differences.

3. Instructional analysis of Introduction to Education Course

The results of the instructional analysis of the Introduction to Education course that had been done in the academic year 2015/2016 had the following findings: (a) the study materials discussed in course lessons are largely theoretical (Yes = 41%), (b) the content of

courses invites more in-depth curiosity about primary school education (Yes = 59%), (c) teaching materials provided or required by lecturers consist of textbooks or references published by certain publishers (Yes = 41%), teaching materials provided by lecturers are up to date (Yes = 41%), teaching materials given by lecturers consisting of text from various sources (Yes = 88.3%), teaching materials provided by lecturers support the achievement of learning objectives (71%), teaching materials provided by lecturers organized systematically (82.4%), (d) learning sometimes did not work in accordance with the instructional scenario, for example the use of LCD was hampered by electricity and students were not accustomed to discuss or participate in discussions related to limitation of their educational prior knowledge. The implication of the results of the above instructional analysis was the course needed a richer, newer, motivating, and useful textbook that could support students in achieving learning objectives.

4. Identifying textbook resources

The developed textbooks have been pursued in harmony with the learning outcomes with sources that support these achievements. From the review of the various sources identified, the textbook material comes from: (a) existing and circulating textbooks and references, whether in English or Indonesian while supporting the achievement of learning outcomes, parts of textbooks will be quoted or paraphrased; (b) educational journals are also selected as the source of textbooks related to up to date information or data; (c) available proceedings are also used as a textbook resource related to its novelty and relevance; and (d) sources from the Internet in various formats such as e-books, e-journals, papers, manuscripts, or photographs are used as a source of textbooks related to information that is relevant to the textbook portions.

5. The results of the initial brainstorming

From the discussions with the lecturers of the subjects and the students, the agreement was reached, namely (a) the textbook was attempted as fully as possible to provide information about elementary education in general and was to deliver the students to the elementary school situation ranging from the learner as a raw input, the educational process, and the outcome education, (b) the textbook was attempted to be concise, did not be too

thick, and allowed students to further study other references, and (c) the textbook should contain interesting photographs to enable students to transition when viewing the text.

Results of Design Stage

Following-up results of the planning stage, development activities in design stage was directed to produce textbook design. From the discussion it proposed components of textbook, syllabus-based content, and selecting sources in the text format and sources to support the texts in the pictures or photos format. The textbook design of Introduction to Elementary Education consisted of the following sections:

The front cover informed the title of the book and the author and inside the front cover that informs publication year, copy right.

Foreword

Table of contents

User Guide

Chapter 1 Education as a System

Chapter 2 Elementary Education

Chapter 3 Diversity of Elementary School Children

Chapter 4 Elementary School Teachers

Chapter 5 The Foundation of Elementary Education

Chapter 6 Diversity of Elementary School Curriculum

Chapter 7 Learning in Elementary School

Chapter 8 Assessment in Elementary School

Chapter 9 Guidance and Counseling at Elementary School

Chapter 10 Multicultural Education in Elementary Schools

Chapter 11 The Role of Parents in Elementary Education

Chapter 12 Elementary School Management

Chapter 13 Elementary School Reform

Chapter 14 Elementary Education Research

In each chapter there was a statement of learning objectives, chapter contents, summaries, and questions.

Results of Developing Stage

Writing the textbook

The product of designing stage was delivered to developing stage in which researchers started to write the textbook draft. It had 199 pages and for the purpose of quality review and pilot test the textbook draft was printed in A4 format and for validation it was in pdf format.

Quality Review Results

Quality review was aimed at knowing the validity of the textbook. This review was conducted by two colleagues of ETE lecturers. Reviewers reviewed

the textbook draft by referring to the aspects described in the assessment guidelines. The results of the quality review and the advice given to the 8 indicators of the textbook target were presented below:

- The overall look of the textbook was interesting, the paper size could be selected A4 or other, the cover should be full color and printed glossy, and textbooks should be made in book format so that the display would be attractive;
- Components of textbook fulfilled the minimum requirements of textbook as well as it has been written in accordance with the requirements, if required added index;
- The contents of textbooks had actual accuracy, fulfilled the scientific rules, and the content of textbook related to the syllabus;
- The contents of each chapter were suitable for learning outcomes as mentioned in the syllabus;
- Exercises and tasks had been facilitated but should had the nuances of HOTS, and directed to motivate students to read further references;
- Textbooks enabled students to self-directed learning, in particular there were training guides and references for further study;
- Overall the contents of the book did not cause bias, such as gender bias, class or group favor;
- In the textbook was still identified mechanistic errors either from the side of the sentence or typing, should the writing errors are omitted.

The results of the quality review were followed up by revision some parts until the textbook met the validity criteria.

Pilot Test Results

The pilot test involved one lecturer and three students at ETE Sriwijaya University who took the course Introduction to Elementary Education. Lecturer taught students in small group focusing on 3 sample chapters from the textbook, namely Education as a System, Level of Elementary Education, and Diversity of Elementary School Children. Assessment was administered to the students after completing the instruction. The results were as follows:

Table 1 Students' learning outcomes in pilot test

Book Content	Mean (n=3)
Chapter 1: Education as a System	78
Chapter 2: Elementary Education	82
Chapter 3: Diversity of Elementary School Children	80
Mean	80

The results of the interviews with the students regarding the textbook aspects showed that the textbooks had fulfilled the clarity of the title, the clarity of information about the purpose and benefits of textbook, the content of the table with chapters and chapter sections, availability of course review statements, clarity of instruction manual usage, completeness of the content of each chapter and section chapter, completeness of the bibliography. Nevertheless the students identify there were still a few shortcomings of a technical nature, namely the writing/spelling and consistency of used terminologies. Despite of the students' opinion to the textbook, it seemed that the mean score of 80 in pilot test indicated that the textbook complied the practicality criteria.

The errors have been revised so that the textbook was considered to have met the criteria of practicality.

Validation Results

Validation activities in the form of field test involving lecturer and first semester students of ETE who took the course of Introduction Education aiming to determine the effectiveness of textbook. The lecturer re-examined the instructional design in the form of syllabus (RPS) with the main source of learning textbook that had being developed, provided the appropriate textbook in the form of pdf file to the students, used the instrument of observation guidance and test of learning outcomes, prepared the participants, and run down. Validation results were described below:

Assessment of Student Enthusiasm

The enthusiasm of the students during the lesson in Introduction to Elementary Education was assessed based on three aspects, namely initiation of using textbook, persistence of using textbook, and intensity of using textbooks, using self-reporting questionnaires. The results of these assessments were analyzed by calculating the mean score following the standard deviation.

Table 2 Students' enthusiasm in using textbook

Enthusiasm Aspects	Mean (n=43)	SD
Initiation in using the text book	4,24	0,47
Persistence in using the text book	4,07	0,42
Intensity in using the text book	4,03	0,37
Mean	4,11	0,33

Assessment of Learning Outcomes

Student learning outcomes in subject lessons Introduction to Elementary Education is measured in the scopes of chapters discussed in the classroom, which are seven chapters, comprising education chapters as a system, elementary education level, school age diversity, primary school teachers, educational foundation of elementary school, elementary school curriculum diversity, and elementary school. Measurement of learning outcomes using written tests of essay forms. The results of the assessment were analyzed by calculating the average score and standard deviation as presented in Table 4.8.

Table 3 Students' learning outcomes in validation

Book Content	Mean (n=43)	SD
Chapter 1: Education as a System	81,49	4,06
Chapter 2: Elementary Education	84,59	8,20
Chapter 3: Diversity of Elementary Children	86,08	6,78
Chapter 4: Elementary School Teacher	85,41	6,71
Chapter 5: The Foundation of Elementary Education	85,54	6,95
Chapter 6: Diversity of Elementary School Curriculum	86,06	6,02
Chapter 7: Learning in Elementary School	85,68	5,29
Total Mean	84,98	4,33

Discussion

First, the objective of the study is to produce a valid, practical, and effective Introduction to Elementary Education textbook. The results of the research indicate that the objectives have been achieved, where the textbook has good validity value based on reviewer's assessment, fulfills good practical value based on pilot test result, and fulfills the effectiveness requirement gained from the field test results which shows that the students are enthusiastic in using the textbook and achieve of high score in learning outcomes.

Second, textbook is one component that plays an important role in an instructional design. For this importance, a textbook must meet the three main criteria of educational products as proposed by McKenney (2008), which is valid, practical, and has potential or effective impact. The effectiveness of a textbook only can be achieved if it has fulfilled the validity and validity criteria. From the side of the validity, the Introduction to Elementary Education

textbook which consists of 14 chapters can facilitate students to build a basic insight into elementary education. In further analyzing, the content of the textbook can be grouped into elementary school foundations, elementary school organizations, elementary school learners, elementary school teacher educators, elementary school services, and elementary school development. Each of these contents will support students' learning in advanced courses.

The findings of this research development indicate that the average achievement of students on the seven chapters of the Introduction to Education textbook is at score 85, with the lowest average score in Chapter 1 Education as System of 81. While for other chapters the average score reaches 85-86. The number of students who reached the score of more than 85 reached 54% of 37 students. The remaining 56% are in the 81-85 score range. In closer look the average value and standard deviation can be interpreted that the range of student scores are not too wide, except in Chapter 1 on the level of elementary education. This achievement can be interpreted that the introduction to Elementary Education textbook of Primary School is considered effective in helping students to achieve the required learning outcomes of the course.

Meanwhile, from the students' enthusiasm perspective in using the textbook, it indicates that the level of enthusiasm is in the high category. The average aspect of initiation that reaches an average of 4.24 with a standard deviation of 0.47 can be interpreted that during the instruction the students showed readiness to learn by using the textbook. For persistence aspect that reaches an average of 4.07 with standard deviation of 0.42, it can be interpreted that they have high persistence in using textbook even though there are parts that considered difficult. Meanwhile, on the intensity aspect, which is related to the students' willingness to further study the textbook, their scores are at an average of 4.03 with a standard deviation of 0.33. Although the average score is lower than the other two aspects, the average score indicates that the students' intensity in using textbook is still high and the difference between students' scores is relatively low.

The introductory course is a subject that ensures students familiar with a field of science or study and prepares them to study at a higher level. In term of the students who participated in the study, they enrolled in the first year and are in transition phase from high school learning pattern to higher education learning patterns. In addition Introduction to Elementary Education becomes the first courses to introduce them to the theory and practice of

elementary education. In further examination it can be seen that the students' mastery of the textbook content are satisfactory, primarily viewed from the learning outcome scores. This achievement can be interpreted that students have a holistic perspective on elementary education, especially in term of textbook content that contain the main points of elementary education. The students' mastery can assist them to learn more specific subjects, i.e. the courses that fall into the category of core competencies.

Third, research on the role of introductory courses is assumed to have been widely practiced but have not been widely published. One of studies of introductory courses has been conducted by Howard and Zoueller (2007) in the field of sociology. Their finding showed that introductory course is able to facilitate students in developing critical thinking skills, integration and application of knowledge and understanding of society and culture. Unlike current researchers, Howard and Zoueller's research did not reveal the use of teaching materials or textbooks that serve as a reference for learning. Teaching materials and textbooks have a number of characteristic similarities so that slight differences can be ignored. The finding of Mohammad and Kumari (2007) show that textbooks have a central role related to the limited access to resources. Both recommend the need for careful writing of textbooks especially in relation to language clarity, adequate information, mechanistic aspects of printing. Other researchers, Hussain (2012) and Verma and Doshi (2017), demonstrate that quality textbooks contribute significantly to the development of self-esteem and student learning outcomes and correlate with learning outcomes. If referring to the findings of the three researchers it can be stated that the latest textbook supports the results of previous research and has met the requirements as it is done through research development.

Fourth, the research of textbook development that has been done still has some limitations. The first limitation is that not all chapters have been validated via field test given the limited time of research. The second limitation of the textbook validation is still formative evaluation and aimed at one class only. Although within the limits of field test or validations it is effective, but for more comprehensive results, this introductory textbook requires a summative evaluation.

Fifth, further research is expected to focus on the impact of the use of textbooks of Introduction to Elementary Education on learning in related subjects, in terms of the ease or difficulty encountered by students in the course lecture. In this context the research of the textbook is validated as a whole for a

semester, so its validity, practicality, and effectiveness can be tested and can be used by students of ETE in other universities.

CONCLUSION AND SUGGESTION

This research development aims to produce a textbook of Introduction to Elementary Education that meets the criteria of validity and practicality and identifies its potential impact on students' learning behavior and learning outcome. From the results of the data collection, analysis, and discussion it can be concluded that the two research objectives have been achieved by producing the textbook that meets the validity criteria based on peer review, the criteria of practicality based on the pilot test results, and have a positive potential impact on students' enthusiasm for using textbook and their learning outcomes.

Regarding the planning, designing, and developing of the Introduction to Elementary Education textbook, it is recommended that lectures who are interested to use it have to treat the text book as an introductory to the students. Those who want to enrich their students understanding have consider the reference materials of the textbook. The textbook that have been produced meets the criteria of validity, practicality, and effectiveness. However, given the rapidly changing trend of knowledge, the textbook contents need to be enhanced continuously in accordance with curriculum development. Further research in the form of validating the whole chapters and summative evaluation needs to be done in order to investigate its effectiveness by lectures of ETE Sriwijaya University as well as other lectures who are interested to use it.

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